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On Oct. 27, 2004

By Joanne R. Petithory  
Joanne R. Petithory

Attorney Docket No. 0241us320

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Erik Karrer, *et al.*

Examiner: *Unassigned*

Application No: 10/686,945

Art Unit: 1644

Filed: October 16, 2003

For: Antibody Diversity Generation

INFORMATION DISCLOSURE  
STATEMENT UNDER  
37 CFR § 1.97 and § 1.98

Commissioner for Patents  
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Sir:

The references cited on the attached Form PTO SB-08 and Form PTO-892 are being called to the attention of the Examiner to make of record references cited in parent application USSN 09/704,469 filed November 1, 2000. Pursuant to 37 CFR § 1.98(d), copies of references cited in parent application USSN 09/704,469 are not provided. However the Applicants will gladly provide additional copies of any references requested by the Examiner.


It is respectfully requested that the cited information on the attached Form PTO SB-08 and Form PTO-892 for application USSN 09/704,469 be expressly considered during the prosecution of the instant application, and that references be made of record therein and appear among the "references cited" on any patent to issue therefrom.

As provided for by 37 CFR 1.97(g) and (h), no inference should be made that the information and references cited are prior art merely because they are in this statement and no representation is being made that a search has been conducted or that this statement encompasses all the possible relevant information.

It is believed that no fee is required for submission of this statement, since it is being submitted prior to the first Office Action on the merits. However, if a fee is required, the Commissioner is authorized to deduct such fee from the undersigned's Deposit Account No. 50-0990. Please deduct any additional fees from, or credit any overpayment to, the above-noted Deposit Account.

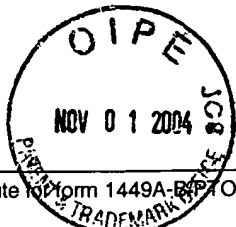
Respectfully submitted,

October 26, 2004

  
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Substitute for form 1449A-BP-TO  <b>INFORMATION DISCLOSURE          STATEMENT BY APPLICANT</b>  <i>(use as many sheets as necessary)</i>	Complete if Known		
	Application Number	09/704469	
	Filing Date	November 1, 2000	
	First Named Inventor	Erik Karrer	
	Group Art Unit	Unassigned	
	Examiner Name	Unassigned	
		Attorney Docket Number	02-102020US

U.S. PATENT DOCUMENTS						
Examiner Initials	Cite No.	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, lines, Where Relevant Passages or Relevant Figures Appeal
		Number	Kind Code (if known)			
	AA	09/407,800		Maxygen, Inc.	09-28-1999	
	AB	09/408,392		Maxygen, Inc.	09-28-1999	
	AC	09/408,393		Maxygen, Inc.	09-28-1999	
	AD	09/618,579		Maxygen, Inc.	07-18-2000	
	AE	60/186,482		Maxygen, Inc.	03-02-2000	
	AF	4,634,664		Engelman et al.	01-06-1987	
	AG	4,634,666		Engelman et al.	01-06-1987	
	AH	5,756,316		Schellenberger	05-26-1998	
	AI	5,783,431		Peterson et al.	07-21-1998	
	AJ	5,824,485		Thompson et al.	10-20-1998	

FOREIGN PATENT DOCUMENTS								
Examiner Initials	Cite No.	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T
		Office	Number	Kind Code (if known)				
	AK	WO	00/00632	A1	Phylos, Inc	01-06-2000		
	AL	WO	00/09676	A1	Proteus	02-24-2000		
	AM	WO	00/42560	A2	Maxygen, Inc.	07-20-2000		
	AN	WO	00/42560	A3	Maxygen, Inc.	07-20-2000		
	AO	WO	00/42561	A2	Maxygen, Inc.	07-20-2000		
	AP	WO	00/42561	A3	Maxygen, Inc.	07-20-2000		
	AQ	WO	00/46344	A2	Diversa Corp.	08-10-2000		
	AR	WO	00/46344	A3	Diversa Corp.	08-10-2000		
	AS	WO	00/42559	A1	Maxygen, Inc.	07-20-2000		
	AT	WO	95/22625	A1	Stemmer	08-24-1995		
	AU	WO	96/33207	A1	Stemmer	10-24-1996		
	AV	WO	97/35957	A1	Stemmer	10-02-1997		
	AW	WO	98/42727	A1	SRI International	10-01-1998		

Examiner Signature		Date Considered	
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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Substitute for form 1449A-B/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)		Complete if Known	
		Application Number	09/704469
		Filing Date	November 1, 2000
		First Named Inventor	Erik Karrer
		Group Art Unit	Unassigned
		Examiner Name	Unassigned
		Attorney Docket Number	02-102020US
OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T
	AX	Balint and Larrick (1993) "Antibody Engineering by Parsimonious Mutagenesis." <i>Gene</i> 137:109-118	
	AY	Chothia and Lesk (1987) "Canonical Structures for the Hypervariable Regions of Immunoglobulins." <i>J Mol Biol.</i> 196:901-917	
	AZ	Giver et al. (1998) "Combinatorial protein design by in vitro recombination." <i>Current Opinion in Chemical Biology</i> 2(3): 335-338.	
	BA	Gram et al. (1992) "In Vitro selection and affinity maturation of antibodies from a naïve combinatorial immunoglobulin library." <i>PNAS</i> 89:3576-3580	
	BB	Hawkins et al. (1992) "Selection of phage antibodies by binding affinity. Mimicking affinity maturation." <i>J. Mol Biol.</i> 226:889-896	
	BC	Hock (1997) "Antibodies for immunosensors: a review." <i>Analytica Chimica Acta</i> 347:177-186	
	BD	Huse et al. (1989) "Generation of a Large Combinational Library of the Immunoglobulin Repertoire in Phage Lambda." <i>Science</i> 246:1275-1281	
	BE	Jirholt et al. (1998) "Exploiting sequence space: shuffling in vivo formed complementarily determining regions into a master framework." <i>Gene</i> 215:471-476	
	BF	Litman et al. (1993) "Phylogenetic diversification on immunoglobulin genes and the antibody repertoire." <i>Mol Biol Evol</i> 10:60-72	
	BG	Low et al. (1996) "Mimicking somatic hypermutation: affinity maturation of antibodies displayed on bacteriophage using a bacterial mutator strain." <i>J. Mol Biol.</i> 260:359-368	
	BH	Marks et al. (1991) "By-passing immunization. Human antibodies from V-gene libraries displayed on phage." <i>J. Mol Biol.</i> 222:581-597	
	BI	Marks et al. (1992) "By-Passing Immunization: Building High Affinity Human Antibodies by Chain Shuffling." <i>Biotechniques</i> 10:779-782	
	BJ	Schier and Marks (1996) "Efficient in vitro affinity maturation of phage antibodies using BIAcore guided selections." <i>Hum Antibodies Hybridomas</i> 7:95-105	
	BK	Stemmer et al. (1993) "Selection of an Active Single Chain Fv Antibody From a Protein Linker Library Prepared by Enzymatic Inverse PCR." <i>Biotechniques</i> 14(2):256-265	
	BL	Stemmer et al. (1995) "Single-step assembly of a gene and entire plasmid from large numbers of oligodeoxy-ribonucleotides." <i>Gene</i> 164:49-53	
	BM	Stemmer et al. (1997) "Molecular evolution of genes and pathways by DNA shuffling." <i>FASEB J.</i> 11:A1124	
	BN	Ward et al. (1989) "Binding activities of a repertoire of single immunoglobulin variable domains secreted from Escherichia coli." <i>Nature</i> 341:544-546	

Examiner Signature		Date Considered	
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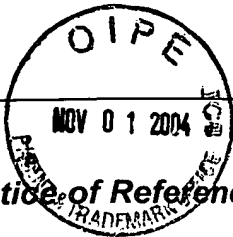
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		Application Number	<b>09/704469</b>
		Filing Date	<b>November 1, 2000</b>
		First Named Inventor	<b>Erik Karrer</b>
		Group Art Unit	<b>Unassigned</b>
		Examiner Name	<b>Unassigned</b>
		Attorney Docket Number	<b>02-102020US</b>
	BO	Winter et al. (1994) "Making Antibodies by Phage Display Technology." <i>Annu Rev. Immunol</i> 12:433-455	
	BP	Wu et al. (1970) "An analysis of the sequences of the variable regions of bence jones proteins and myeloma light chains and their implications for anti-body complementarity." <i>J. Exo Med.</i> 132:211-250	

Examiner Signature		Date Considered	
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# **Notice of References Cited**

<p>Application/Control No. 09/704,469</p>	<p>Applicant(s)/Patent Under Reexamination KARRER ET AL.</p>	
	<p>Examiner Larry R. Helms</p>	<p>Art Unit 1642</p>
		<p>Page 1 of 1</p>

## **U.S. PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A	US-			
	B	US-			
	C	US-			
	D	US-			
	E	US-			
	F	US-			
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## **FOREIGN PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
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	P					
	Q					
	R					
	S					
	T					

## **NON-PATENT DOCUMENTS**

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	Daugherty et al NAR 19:2471, 1991
	V	Rader et al PNAS 95:8910-15, 1998
	W	Rudikoff et al PNAS 79:1979, 1982
	X	

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.